

Title (en)

OPTIMIZED PRODUCTION OF CBGA FROM OLIVETOL ACID AND GERANYL PYROPHOSPHATE VIA SYNPHB

Title (de)

OPTIMIERTE HERSTELLUNG VON CBGA AUS OLIVETOLSÄURE UND GERANYLPYROPHOSPHAT ÜBER SYNPHB

Title (fr)

PRODUCTION OPTIMISÉE DE CBGA À PARTIR D'ACIDE OLIVÉTOLIQUE ET DE PYROPHOSPHATE DE GÉRANYLE VIA SYNPHB

Publication

EP 3901256 A1 20211027 (EN)

Application

EP 20170662 A 20200421

Priority

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Abstract (en)

The prenyltransferase is a protein which catalyzes the prenylation of olivetolic acid (OA) with geranyl pyrophosphate (GPP) to produce CBGA. However, CBGA production using prenyltransferase NphB is extremely poor and generates the side-product 2-O-geranyl olivetolate. This invention describes the prenyltransferase SynNphB from the *Streptomyces* sp. and a set of mutations which enhances the CBGA production by enhancing the turnover rate and specificity of the enzyme while decreasing the yield of the side-production 2-O-geranyl olivetolate in microorganisms.

IPC 8 full level

C12N 9/10 (2006.01); **C12N 15/52** (2006.01); **C12P 7/22** (2006.01); **C12P 7/42** (2006.01)

CPC (source: EP)

C12N 9/1085 (2013.01); **C12P 7/22** (2013.01); **C12P 7/42** (2013.01); **C12Y 205/01001** (2013.01)

Citation (applicant)

- WO 2017139496 A1 20170817 - CEVOLVA BIOTECH INC [US]
- WO 2014159688 A1 20141002 - SC LAB INC [US]
- BMC BIOTECHNOL., 2008

Citation (search report)

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- [X] MEAGHAN A. VALLIERE ET AL: "A cell-free platform for the prenylation of natural products and application to cannabinoid production", NATURE COMMUNICATIONS, vol. 10, no. 1, 4 February 2019 (2019-02-04), XP055629791, DOI: 10.1038/s41467-019-08448-y

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Designated contracting state (EPC)

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